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10/790,655	03/01/2004	Naohiro Tamura	1503.69885	9572

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EXAMINER
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NALVEN, ANDREW L

ART UNIT	PAPER NUMBER
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2134

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08/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/790,655

Applicant(s)

TAMURA ET AL.

Examiner

Andrew L. Nalven

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/1/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-27 are pending.

### *Claim Objections*

2. Claim 20 is objected to because of the following informalities: the limitation "The preset time" should be amended to read "the present time." Appropriate correction is required.

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. **Claims 1 and 27 are rejected under 35 U.S.C. 101** because the claimed invention is directed to non-statutory subject matter.
2. **Regarding claim 1**, the claim is directed towards nonstatutory subject matter. The cited claim is an example of functional descriptive material consisting of data structures and programs that impart functionality when employed as executed by a computer component. The functionality of functional descriptive material is realized only when the functional descriptive material is claimed as being embodied on a tangible computer readable medium and is claimed as executed by a computer component. The cited claims provide no tangible computer components that work in conjunction with the

functional descriptive material to impart functionality and as a result the claims are not statutory because they fail the practical application requirement of § 101 by failing to provide a useful, concrete, and tangible result (see MPEP 2106).

3. **Regarding claim 27**, the claimed program comprised of a computer data signal embodied by a carrier wave is non-statutory because a carrier wave is intangible. The functionality of functional descriptive material is realized only when the functional descriptive material is claimed as being embodied on a tangible computer readable medium and is claimed as executed by a computer component. The cited claims do not provide tangibly embodied functional descriptive material and as a result the claims are not statutory because they fail the practical application requirement of § 101 by failing to provide a useful, concrete, and tangible result (see MPEP 2106).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 2-27 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. **Regarding claims 2-25**, the claimed "search process" is indefinite because it is defined as "searching the flowing-in path of the unauthorized access" while dependent claims 3 and 4 limit the search process to starting when unauthorized access is

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detected. These limitations seem to conflict because the search process of claim 2 is defined as searching that which claim 3 defines as starting the process. Thus, it is unclear to the Examiner how a detection of an unauthorized access is made if the search process only searches that which has already been defined as an unauthorized access.

5. **Regarding claim 7**, the claimed "mutual attestation" is indefinite because it is unclear what the flow source and notification unit are mutually attesting to.

6. **Regarding claims 13-14**, the claimed judgment step is indefinite because it is unclear what is being judged. The claims provide for "judging whether...the determination is notified to the flow source." However, parent claim 2 provides for a notification process. Thus, it appears that claim 13 requires judging whether an action required by claim 2 is completed. If the action must be completed, as is required in claim 2, then it is unclear to the Examiner how claim 13 further limits its parent.

7. **Regarding claim 14**, the claimed "judgment information" lacks antecedent basis and thus is indefinite. Examiner is unable to determine what the judgment information is comprised of.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1-9, 12-18, and 22-27 are rejected under 35 U.S.C. 102(e)** as being

anticipated by Talpade et al US PGPub 2004/0148520.

9. **With regards to claim 1**, Talpade teaches an unauthorized access prevention system (Talpade, Abstract, when attack is detected, mitigate the attack), including: a search unit searching the flowing-in path of unauthorized access to services disclosed from a user's communication network (Talpade, paragraph 0017, sensor 204 detects an attack, traffic entering the customer network); a determination unit determining a place to implement a countermeasure for protecting the services from the unauthorized access based on the result of the search (Talpade, paragraph 0024, automatically mitigates attack by informing affected edge routers); and a notification unit notifying, according to a determination that the countermeasure is implemented in the flow source that makes the unauthorized access flow into the user's communication network, the determination to a flow source (Talpade, paragraph 0024, new routing information is sent to the border and edge routers).

10. **With regards to claim 2**, Talpade teaches a recording medium in which a program that directs a computer to implement a countermeasure against unauthorized access is recorded and in which the program can be read by the computer, and the program directs the computer to perform the following processes by being executed by

the computer (Talpage, paragraph 0019, host platform): a search process of searching the flowing-in path of the unauthorized access to the services disclosed from the user's communication network (Talpage, paragraph 0017, sensor 204 detects an attack, traffic entering the customer network); a determination process of determining the place to implement the countermeasure for protecting the services from the unauthorized access based on the result of the search (Talpage, paragraph 0024, automatically mitigates attack by informing affected edge routers); and a notification process of notifying, according to a determination that the countermeasure is implemented in the flow source that makes the unauthorized access flow into the user's communication network, the determination to the flow source (Talpage, paragraph 0024, new routing information is sent to the border and edge routers).

11. **With regards to claim 3** (as best understood), Talpage teaches the search process is performed by a computer when the unauthorized access is detected (Talpage, paragraph 0020, sensor detects and analyzes packets using first, second, and third set of sensors).

12. **With regards to claim 4** (as best understood), Talpage teaches the search process is performed by the computer when the detection of the unauthorized access is notified (Talpage, paragraph 0020, sensor detects and analyzes packets using first, second, and third set of sensors).

13. **With regards to claim 5**, Talpage teaches the process of searching the flowing-in path is performed by the computer based on the monitoring information on the traffic transmitted by a user's communication network and the unauthorized access

information indicating the contents of the unauthorized access (Talpade, paragraph 0020, searching is based upon all traffic entering customer network, searching looks at information in headers – sensor two).

14. **With regards to claim 6**, Talpade teaches the monitoring information includes at least the position information on an edge router arranged on the border between the user's communication network and the communication network adjacent to the user's communication network and the monitoring information on the traffic that flows into the user's communication network via the edge router (Talpade, paragraph 0020, position information - monitors all traffic entering a particular customers network, paragraph 0024, informs all border/edge routers for the customer network to reroute traffic).

15. **With regards to claim 7 (as best understood)**, Talpade teaches the process of notifying the determination to the flow source after mutual attestation is conducted between the notification unit and the flow source of the unauthorized access is performed by the computer (Talpade, paragraph 0024, new routing information is sent to border/edge routers).

16. **With regards to claim 8**, Talpade teaches the process of notifying the determination to the flow source after information on a security policy for the operation of each network is exchanged with the flow source that transmits the unauthorized access is performed by the computer (Talpade, paragraph 0024, security policy in the form of new routing information is sent to border/edge routers).

17. **With regards to claim 9**, Talpade teaches information on a security policy is the information indicating the time required till the countermeasure against the unauthorized



access is cancelled after the unauthorized access is not detected any more (Talpade, paragraph 0028, periodic polling to determine if attack has completed).

18. **With regards to claim 12**, Talpade teaches the process of notifying the flow source of the unauthorized access of the determination using the communication path that differs from the flowing-in path of the unauthorized access is performed by the computer (Talpade, paragraph 0023, notification is provided through IP tunnels).

19. **With regards to claim 13** (as best understood), Talpade teaches the notification process directs the computer to perform the process of judging whether, when it is determined that the countermeasure is implemented in the flow source that makes the unauthorized access flow into the user's communication network, the determination is notified to the flow source; by having the program executed by the computer; the unauthorized access countermeasure implementation control process that has the countermeasure for protecting the services from the unauthorized access implemented in the flow source when it is judged that the determination will not be notified to the flow source based on the above notification process is further performed by the computer (Talpade, paragraph 0024, new routing information is sent to border/edge routers):

20. **With regards to claim 14**, Talpade teaches the judgment is made based on the judgment information on the flow source that is given in advance (Talpade, paragraph 0020, judgment whether to send notification determined from sensor findings in advance of sending notification).

21. **With regards to claim 15**, Talpade teaches that by having the program executed by the computer; the unauthorized access countermeasure implementation

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control process that has the countermeasure for protecting the services from the unauthorized access implemented in the user's communication network based on the determination that said countermeasure is implemented in the user's communication network is performed by the computer (Talpade, paragraph 0024, implemented by analysis engine and filter router).

22. **With regards to claim 16**, Talpade teaches the process of implementing the countermeasure in the POP (point of presence) edge router to which the flow source of the unauthorized access is connected is performed by the computer (Talpade, paragraph 0024, new routing information is sent to border/edge routers).

23. **With regards to claim 17**, Talpade teaches the process of identifying the POP edge router to which the transmitter that transmits the unauthorized access is connected based on the information obtained from the operation management system that manages the operation of the user's communication network is further performed by the computer (Talpade, paragraph 0024, analysis engine/ISP manager/filter routers determine provide new routing tables to mitigate attack).

24. **With regards to claim 18**, Talpade teaches that by having the program executed by the computer; the process of obtaining a notification of the determination that unauthorized access to the services disclosed from a communication network different from the user's communication network is made to flow into said other communication network is further performed by the computer (Talpade, paragraph 0017, sensor 204 detects an attack, traffic entering the customer network); and the process of implementing the countermeasure for protecting the services disclosed from

said other communication network from the unauthorized access related to the notification in the user's communication network when the notification is obtained by the notification obtaining process is performed by the computer (Talpade, paragraph 0024, new routing information is sent to the border and edge routers).

25. **With regards to claim 22**, Talpade teaches that by having the program executed by the computer; the process-of obtaining a notification of the determination that unauthorized access to the services disclosed from a communication network different from the user's communication network is made to flow into said other communication network is performed by the computer (Talpade, paragraph 0017, sensor 204 detects an attack, traffic entering the customer network); the process of searching the flowing-in path of the unauthorized access related to the notification in the user's communication network when the notification is obtained by the notification obtaining process is performed by the computer (Talpade, paragraph 0017, sensor 204 detects an attack); the process of determining the place to implement the countermeasure for protecting the services disclosed from said other communication network from the unauthorized access related to the notification based on the result of the search when the notification is obtained by the notification obtaining process is performed by the computer (Talpade, paragraph 0024, analysis engine/ISP manager/filter routers determine provide new routing tables to mitigate attack); and the process of notifying, according to a determination that the countermeasure is implemented in the flow source that makes the unauthorized access related to the notification flow into the user's communication network when the notification is obtained

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by the notification obtaining process, the determination to the flow source is performed by the computer (Talpade, paragraph 0024, new routing information is sent to the border and edge routers).

26. **With regards to claim 23**, Talpade teaches that by having the program executed by the computer; the unauthorized access countermeasure implementation control process that has the countermeasure for protecting the services disclosed from the user's communication network or the other communication network from the unauthorized access related to the notification implemented in the communication network of the notification source of the notification when the notification obtained by said notification obtaining process is the same as that obtained in the past is further performed by the computer (Talpade, paragraph 0024, countermeasures for all attacks created by implementing new routing information that is sent to the border and edge routers).

27. **With regards to claim 24**, Talpade teaches the process of notifying the information that uniquely identifies the unauthorized access related to the notification when the determination is notified is performed by the computer (Talpade, paragraph 0022, notification of attack is sent by sensor).

28. **With regards to claim 25**, Talpade teaches having the program executed by the computer; the process of recording the history of the notification is further performed by the computer (Talpade, paragraph 0028, record of notifications stored such that analysis engine can later determine if the attack is completed).

29. **With regards to claim 26**, Talpade teaches an unauthorized access prevention method, including: searching the flowing-in path of unauthorized access to the services disclosed from the user's communication network (Talpade, paragraph 0017, sensor 204 detects an attack, traffic entering the customer network); determining the place to implement the countermeasure for protecting the services from the unauthorized access based on the result of the search (Talpade, paragraph 0024, automatically mitigates attack by informing affected edge routers); and notifying, according to a determination that the countermeasure is implemented in the flow source that makes the unauthorized access flow into the user's communication network, the determination to the flow source (Talpade, paragraph 0024, new routing information is sent to the border and edge routers).

30. **With regards to claim 27**, Talpade teaches a computer data signal embodied by a carrier wave and representing a program that directs a computer to implement a countermeasure against unauthorized access (Talpade, paragraph 0019, host platform), which, by having the program executed by the computer, directs the computer to perform the processes of: searching the flowing-in path of the unauthorized access to the services disclosed from the user's communication network (Talpade, paragraph 0017, sensor 204 detects an attack, traffic entering the customer network); determining the place to implement the countermeasure for protecting the services disclosed from the user's communication network from the unauthorized access based on the result of the search (Talpade, paragraph 0024, automatically mitigates attack by informing affected edge routers); and notifying, according to a determination that the

countermeasure is implemented in the flow source that makes the unauthorized access flow into the user's communication network, the determination to the flow source (Talpade, paragraph 0024, new routing information is sent to the border and edge routers).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

31. **Claims 10-11, 19-21 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Talpade et al US PGPub 2004/0148520 in view of Kaler et al US PGPub 2004/0003286.

32. **With regards to claim 10** (as best understood), Talpade fails to teach that the time indicated by the information on the security policy differs between the user communication network and the flow source, a shorter time of the two is used as the time required till the countermeasure against unauthorized access is cancelled after the unauthorized access is not detected any more. However, Kaler teaches that the time indicated by the information on the security policy differs between the user communication network and the flow source, a shorter time of the two is used as the time required till the countermeasure against unauthorized access is cancelled after the

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unauthorized access is not detected any more (Kaler, paragraph 0036, time period for countermeasures if predefined in the threat source). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Kaler's method of timing countermeasures because it offers the advantage of increasing security and efficiency by allowing a countermeasure's time of enactment to be dependent upon the severity of the attack (Kaler, paragraph 0036).

33. **With regards to claim 11**, Talpade as modified teaches the process of notifying the flow source of the determination and the information indicating the time required till the countermeasure against the unauthorized access is cancelled after the unauthorized access is not detected any more is performed by the computer (Kaler, paragraph 0036, time period for countermeasures if predefined in the threat source, paragraph 0021, computer device).

34. **With regards to claim 19**, Talpade teaches the countermeasure implemented by the unauthorized access countermeasure implementation control process is cancelled after the unauthorized access is not detected any more (Talpade, paragraph 0028, determine when the attack is completed), but fails to teach a preset time. However, Kaler teaches a preset time for cancellation of countermeasures (Kaler, paragraph 0036, time period for countermeasures if predefined in the threat source). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Kaler's method of timing countermeasures because it offers the advantage of increasing security and efficiency by allowing a countermeasure's time of enactment to be dependent upon the severity of the attack (Kaler, paragraph 0036).

35. **With regards to claim 20**, Talpade as modified teaches the preset time is set based on the security policy on the network operation of both the user's communication network and the other communication network (Kaler, paragraph 0036, time period for countermeasures if predefined in the threat source depending on severity of the threat).

36. **With regards to claim 21**, Talpade as modified teaches that when the times set between the user's communication network and the other communication network based on the security policy on the network operation of both networks differ between both networks, the countermeasure is cancelled after the unauthorized access is not detected any more and a shorter time of the two passes (Talpade, paragraph 0028, determine when the attack is completed, Kaler, paragraph 0036, time period for countermeasures if predefined in the threat source).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Nalven whose telephone number is 571 272 3839. The examiner can normally be reached on Monday - Thursday 8-6, Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on 571 272 3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Naiven

